REMARKS

Claims 1 and 8 have been amended for clarity. Claims 1-14 are pending in the application. No new matter has been added.

Claims 1-14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,499,733 to Litvak (the Litvak reference) in view of U.S. Patent No. 5,780,315 to Chao et al. (the Chao reference). As will be fully explained below, the combination of the Litvak and Chao references does not establish a *prima facie* case of obviousness against the subject matter defined in claims 1-14, either as originally filed or as amended herein.

Applicant teaches a method of detecting an end point of a ***main*** etch process (i.e., before the layer being etched is etched through to expose a layer below) as recited in claims 1 and 8, as amended. Further, the main etch end point taught by Applicant is detected by a sequence of maximums that occur in two or more different wavelengths of light that are reflected from the layer being etched. In this manner, end point detection of the ***main*** etch process is greatly enhanced (i.e., approaching but not 100% of the layer being etched).

The Litvak reference teaches a method for detecting an end point of an etch process when the layer being etched has been removed to expose and begin etching a material that underlies the layer being etched (i.e., when breakthrough occurs). The Litvak reference teaches that such and end point is detected when a selected wavelength of light has a maximum intensity.

The Chao reference teaches a method of detecting an end point. The Chao reference also defines end point as when the breakthrough a conductive layer being etched to the material below. According to the Chao reference, such an end point can be detected when an intensity level of a wavelength of light decreases from an approximately constant intensity level during the etch process. Further, the light being detected is emitted from the plasma rather than light that is reflected from the conductive layer being etched (Col. 4, ln 42-49).

Neither the Litvak reference nor the Chao reference alone or in combination teach detecting an end point of a ***main*** etch process but rather teach methods of detecting when breakthrough to the underlying material occurs. Further, neither the Litvak reference nor the Chao reference alone or in combination teach detecting and end point based upon the occurrence of a ***sequence of two or more intensity maximums occurring in a precise order in two or more corresponding wavelengths of reflected light*** reflected from the layer being etched.

Accordingly, independent claims 1 and 8 are submitted to be patentable under 35 U.S.C. § 103(a) over the Litvak reference in view of the Chao reference. Claims 2-7 and 9-15, each of which ultimately depends from independent claims 1 and 8 respectively, are likewise submitted to be patentable under U.S.C. § 103(a) over the Litvak reference in view of the Chao reference for at least the same reasons set forth above regarding independent claims 1 and 8.

In view of the foregoing, Applicants respectfully request reconsideration and reexamination of claims 1-14, and submit that these claims are in condition for allowance. Accordingly, a notice of allowance is respectfully requested. In the event a

telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at **(408) 749-6900 x6923**. If any fees are due in connection with the filing of this paper, then the Commissioner is authorized to charge such fees to Deposit Account No. 50-0805 (Order No. LAM2P282). A copy of the transmittal is enclosed for this purpose.

Respectfully submitted,
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MARKED UP CLAIMS

1. (Three times Amended) A method for determining an endpoint for etching a layer, comprising:

selecting a[n] main etch endpoint; and, during etch,

directing radiant energy at two or more wavelengths onto a layer to be etched;

detecting a last intensity maximum reflected from the layer at a first wavelength prior to the selected etch endpoint; and

detecting an intensity maximum reflected at a second wavelength first occurring after the last intensity maximum at the first wavelength.

8. (Three Times Amended) A method for determining an endpoint for etching a layer having an initial thickness, comprising steps of, during etch,

directing radiant energy at three or more wavelengths onto the layer to be etched;

selecting first, second, and third wavelengths;

selecting an etch rate from a time interval between a first detected intensity minimum and an adjacent intensity maximum reflected at the third wavelength, and selecting a[n] main etch endpoint based on the initial thickness of the layer and the selected etch rate;

detecting a last intensity maximum reflected at the first wavelength prior to the selected etch endpoint; and

detecting an intensity maximum reflected from the layer at the second wavelength first occurring after the last intensity maximum at the first wavelength.